

IN THE CLAIMS

Please amend the following claims which are pending in the present application:

1. (Currently amended) An apparatus comprising:

an actuator having a first component with at least one opening and a passageway therein connected to the at least one opening and a second component housed within the passageway being movable between first and second positions within the passageway, the second component dividing the passageway into first and second portions and sealing the first portion from the second portion;

at least one sensor to detect a position of the second component within the passageway; and

a pump system having at least one pump and a controller, the at least one pump being connected to the at least one opening supplying a fluid to the first portion of the passageway, the fluid applying a first force onto the second component, moving the second component between the first and second positions at a first speed, the controller being connected to the at least one pump and the at least one sensor, the controller controlling the at least one pump to change the supply of fluid to the first portion of the passageway to apply a

second force onto the second component, moving the second component between the first and second positions at a second speed,

wherein the first component of the actuator has first and second openings, the passageway interconnects the openings, and

wherein the at least one pump is connected to the first and second openings and further comprising a switch interconnecting the at least one pump and the cylinder, the controller being connected to the switch, and

wherein the controller controls the switch to change the supply of fluid between the first opening and the second opening when the piston is in the second position.

2. (Original) The apparatus of claim 1, wherein the first force is greater than the second force.

3. (Original) The apparatus of claim 2, wherein the first speed is greater than the second speed.

4. (Currently amended) The apparatus of claim 3, ~~wherein the first component of the actuator has first and second openings, the passageway interconnects the openings,~~ the first opening is adjacent to the first portion of the

passageway, and the second opening is adjacent to the second portion of the passageway.

5. (Original) The apparatus of claim 4, wherein the first component of the actuator is a cylinder and the second component of the actuator is a piston within the cylinder.

6. (Original) The apparatus of claim 5, wherein said movement of the piston between the first and second positions of the passageway within the cylinder is substantially linear.

7. (Original) The apparatus of claim 6, wherein there are a plurality of sensors.

8. (Original) The apparatus of claim 7, wherein the sensors are electromagnetic.

9. (Original) The apparatus of claim 7, wherein the sensors are optical.

10. (Original) The apparatus of claim 9, wherein the fluid is air.

11 - 12. (Canceled)

13. (Currently amended) The apparatus of claim ~~12~~1, further comprising first and second pumps, the first pump being connected to the first opening and the second pump being connected to the second opening, the controller being connected to the first and second pumps.

14. (Original) The apparatus of claim 13, wherein the controller controls the first and second pumps to change the supply of fluid between the first opening and the second opening when the piston is in the second position.

15. (Original) A semiconductor substrate processing apparatus comprising:

a frame;

a substrate support mounted to the frame to support a semiconductor substrate;

a dispense arm mounted to the frame for movement relative to the substrate support;

a dispense arm actuator having a first component with an opening and a passageway therein connected to the opening and a second component housed

within the passageway being movable between first and second positions within the passageway, the second component dividing the passageway into first and second portions and sealing the first portion from the second portion, at least one of the components being connected to the frame and at least one of the components being connected to the dispense arm;

at least one sensor coupled to the dispenser arm actuator to detect a position of the second component within the passageway; and

a pump system having a pump and a controller, the pump being connected to the opening and supplying a fluid to the first portion of the passageway, the fluid applying a first force onto the second component to move the second component between the first and second positions at a first speed, the controller being connected to the pump and the at least one sensor, the controller controlling the pump to change the supply of fluid to the first portion of the passageway, when the second component is in a selected position within the passageway, to apply a second force onto the second component to move the second component between the first and second positions at a second speed, the second component stopping in the second position in the passageway.

16. (Original) The semiconductor substrate processing apparatus of claim 15, wherein the first force is greater than the second force.

17. (Original) The semiconductor substrate processing apparatus of claim 16, wherein the first speed is greater than the second speed.

18. (Original) The semiconductor substrate processing apparatus of claim 17, wherein the first component of the actuator has first and second openings, the passageway interconnects the openings, the first opening is adjacent to the first portion of the passageway, and the second opening is adjacent to the second portion of the passageway.

19. (Original) The semiconductor substrate processing apparatus of claim 18, wherein the wafer support has a surface in a plane and the dispense arm is mounted to the frame for translating in a direction transverse to the plane.

20 - 25. (Canceled)